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- 1) Interview Summary and Sup. Reply after 1st Office Action (21 pgs)
- 2) Terminal Disclaimer (2 pgs)
- 3) Supplemental IDS (4 pgs)

Inventor(s): Dykstra et al.
S.N.: 10/069,634
Filed: February 26, 2002
Case: 7752M
Confirmation No. 3356

Number of Pages Including this Page: 28Comments:

Please put this cover sheet with the fax I just sent.

Appl. No. 10069,634
 Atty. Docket No. 7752M
 Amended Supplemental Reply to
 Supplemental Reply in View Of
 Examiner's Interview
 Customer No. 77152

Examiner's Interview	Yes	No
Supplemental Reply in View Of	Yes	No
Amended Supplemental Reply	Yes	No
Supplemental Reply in View Of	Yes	No
Examiner's Interview	Yes	No

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10069,634
 Applicant(s) : Dykstra et al
 Filed : February 26, 2002
 Title : Stable Formulation Components, Compositions and Lambsy
 Methods Employing Same
 TC/A.U. : 1751
 Examiner : Gregory R. Del Cotto
 Conf. No. : 3356
 Docket No. : 7752M
 Customer No. : 27152

INTERVIEW SUMMARY AND SUPPLEMENTAL REPLY
AFTER OFFICE ACTION UNDER 37 CFR 41.111(e)(2)

Mail Stop Amendment
 Commissioner for Patents
 P. O. Box 1450
 Alexandria, VA 22313-1450
 Dear Sir:

INTRODUCTORY REMARKS

In response to the Examiner's interview of September 23, 2004, please reconsider such application in view of the following amendments and remarks.

Please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 20 of this paper.

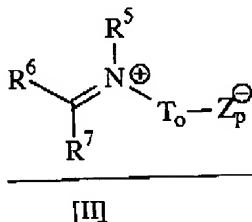
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AMENDMENTS TO THE CLAIMS

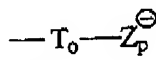
This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A bleaching composition comprising an organic catalyst compound, in conjunction with or without a peroxygen source, wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 30 minutes, said organic catalyst compounds being aryliminium zwitterions having a net charge of from about +3 to about -3, and being represented by the formula (II):



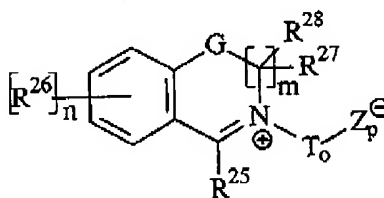
where R⁵-R⁷ are independently selected from substituted or unsubstituted radicals selected from the group consisting of H, alkyl, cycloalkyl, aryl, alkaryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; also present in this formula is the radical represented by the formula:



where Z_p⁻ is covalently bonded to T_o, and Z_p⁻ is selected from the group consisting of -CO₂⁻, -SO₃⁻, -OSO₃⁻, -SO₂⁻ and -OSO₂⁻ and p is either 1, 2 or 3; T_o is selected from the group consisting of substituted or unsubstituted, saturated or unsaturated alkyl, cycloalkyl, aryl, alkaryl, aralkyl and heterocyclic ring, provided T_o is not substituted or unsubstituted methylene or a moiety that is covalently bonded to the nitrogen of formula II via unsubstituted methylene.

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2. (Original) The bleaching composition according to Claim 1 wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 45 minutes.
3. (Original) The bleaching composition according to Claim 1 wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 60 minutes.
4. (Original) The bleaching composition according to Claim 1 wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 90 minutes.
5. (Original) The bleaching composition according to Claim 1 wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 2 hours.
6. (Canceled)
7. (Currently Amended) The bleaching composition according to Claim ~~1~~[[6]] wherein said organic catalyst compound is selected from the group consisting of:
 - (a) ~~aryliminium cations and aryliminium polyions of Claim 6~~
 - (b) ~~aryliminium zwitterions having a net charge of from about +3 to about -3 are~~
 represented by the formula [XII]:

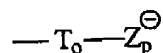


[XII]

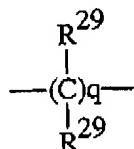
where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each R²⁶ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy

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radicals, and any two vicinal R^{26} substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring; R^{25} may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; also present in this formula is the radical represented by the formula:



where Z_p^{\ominus} is covalently bonded to T_o , and Z_p^{\ominus} is selected from the group consisting of $-CO_2^{\ominus}$, $-SO_3^{\ominus}$, $-OSO_3^{\ominus}$, $-SO_2^{\ominus}$ and $-OSO_2^{\ominus}$ and p is either 1, 2 or 3; T_o is selected from the group consisting of:

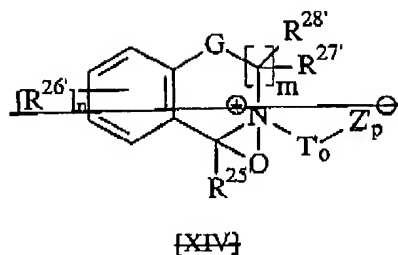


wherein q is an integer from 2 to 8; R^{29} is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all R^{29} groups are not independently selected to be H, provided T_o is not methylene or a moiety that is covalently bonded to the nitrogen of formula XII via methylene; G is selected from the group consisting of: (1) -O-; (2) -N(R^{30})-; and (3) -N(R^{30} R^{31})-; R^{27} , R^{28} , R^{30} and R^{31} are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxys, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of R^{25} , R^{26} , R^{27} , R^{28} , R^{30} and R^{31} may be joined together with any other of R^{25} , R^{26} , R^{27} , R^{28} , R^{30} and R^{31} to form part of a common ring; any geminal R^{27} - R^{28} may combine to form a carbonyl; any vicinal R^{27} - R^{31} may join to form unsaturation; and wherein any one group of substituents R^{27} - R^{31} may combine to form a substituted or unsubstituted fused unsaturated moiety;

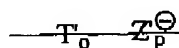
~~(e) oxaziridinium cations and polyions of Claim 6;~~

~~(d) oxaziridinium zwitterions having a net charge of from about +3 to about -3, and are represented by formula [XIV];~~

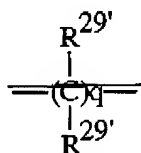
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wherein m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each $R^{26'}$ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal $R^{26'}$ substituents may combine to form a fused aryl, fused carboyclic or fused heterocyclic ring; $R^{25'}$ may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals; the radical represented by the formula:



where Z'_p is covalently bonded to T'_0 , and Z'_p is selected from the group consisting of $-CO_2^-$, $-SO_3^-$, $-OSO_3^-$, $-SO_2^-$ and $-OSO_2^-$, and p is either 1 or 2; T'_0 is selected from the group consisting of:

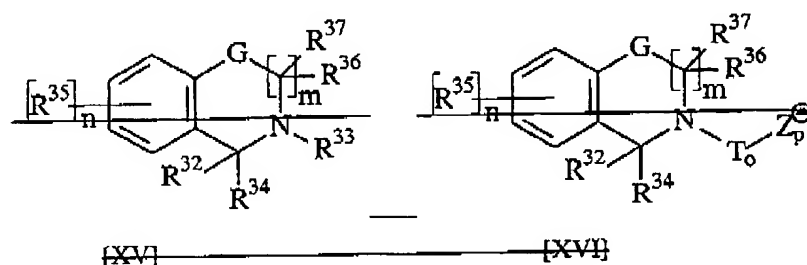


wherein q is an integer from 1 to 8; $R^{29'}$ is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all $R^{29'}$ groups are not independently selected to be H, provided T'_0 is not methylene or a moiety that is covalently bonded to the nitrogen of formula XIV via methylene; G is selected from the group consisting of: (1) O; (2) $N(R^{30'})$; and (3) $N(R^{30'}R^{31'})$; $R^{27'}$, $R^{28'}$, $R^{30'}$ and $R^{31'}$ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylenes, heterocyclic ring, alkoxy, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of $R^{25'}$, $R^{26'}$, $R^{27'}$, $R^{28'}$, $R^{30'}$ and $R^{31'}$ may be joined together with any other of

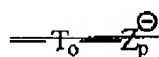
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~~R^{25'}, R^{26'}, R^{27'}, R^{28'}, R^{30'} and R^{31'} to form part of a common ring; any geminal R^{27'}-R^{28'} may combine to form a carbonyl; any vicinal R^{27'}-R^{31'} may join to form unsaturation; and wherein any one group of substituents R^{27'}-R^{31'} may combine to form a substituted or unsubstituted fused unsaturated moiety;~~

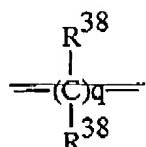
~~(e) modified amines, which have a net charge of from about -3 to about +3, that are represented by the formulas [XV] and [XVI];~~



~~where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each R³⁵ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal R³⁵ substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring; R³² may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; R³³ may be a substituted or unsubstituted, saturated or unsaturated, radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, and also present in this formula is the radical represented by the formula:~~



~~where Z_p⁺ is covalently bonded to T₀, and Z_p⁺ is selected from the group consisting of -CO₂⁺, -SO₃⁺, -OSO₃⁺, -SO₂⁺ and -OSO₂⁺, and p is either 1, 2 or 3; T₀ is selected from the group consisting of:~~

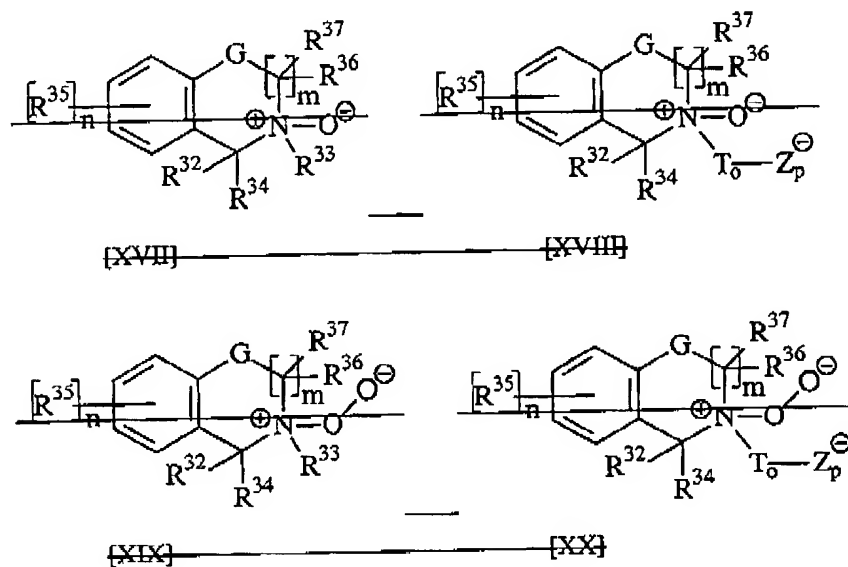


~~wherein q is an integer from 1 to 8; R³⁸ is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl,~~

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cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylecarbonyl, carboxyalkyl and amide groups, provided that all R^{38} groups are not independently selected to be H; G is selected from the group consisting of: (1) O; (2) $N(R^{39})$; and (3) $N(R^{39}R^{40})$; R^{36} , R^{37} , R^{39} and R^{40} are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxy, arylecarbonyl groups, carboxyalkyl groups and amide groups; any of R^{32} , R^{33} , R^{34} , R^{35} , R^{36} , R^{37} , R^{39} and R^{40} may be joined together with any other of R^{32} , R^{33} , R^{34} , R^{35} , R^{36} , R^{37} , R^{39} and R^{40} to form part of a common ring; any geminal R^{36} - R^{37} may combine to form a carbonyl; any vicinal R^{36} , R^{37} , R^{39} and R^{40} may join to form unsaturation; and wherein any one group of substituents R^{36} , R^{37} , R^{39} and R^{40} may combine to form a substituted or unsubstituted fused unsaturated moiety;

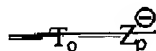
(f) — modified amine oxides, which have a net charge of from about -3 to about +3, that are represented by formulas [XVII]–[XX]:



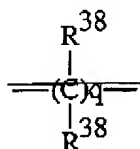
where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each R^{35} is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals; and any two vicinal R^{35} substituents may combine to form a fused aryl, fused carboaromatic or fused heterocyclic ring; R^{32} may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals; R^{33} may be a

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~~substituted or unsubstituted, saturated or unsaturated, radical selected from the group consisting of H, allyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, and also present in this formula is the radical represented by the formula:~~



~~where Z_p⁻ is covalently bonded to T₀, and Z_p⁻ is selected from the group consisting of CO₂⁻, SO₃⁻, OSO₃⁻, SO₂⁻ and OSO₂⁻, and p is either 1, 2 or 3; T₀ is selected from the group consisting of:~~



~~wherein q is an integer from 1 to 8; R³⁸ is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all R³⁸ groups are not independently selected to be H; G is selected from the group consisting of: (1) O; (2) N(R³⁹); and (3) N(R³⁹R⁴⁰); R³⁶, R³⁷, R³⁹ and R⁴⁰ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxy, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁹ and R⁴⁰ may be joined together with any other of R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁹ and R⁴⁰ to form part of a common ring; any geminal R³⁶-R³⁷ may combine to form a carbonyl; any vicinal R³⁶, R³⁷, R³⁹ and R⁴⁰ may join to form unsaturation; and wherein any one group of substituents R³⁶, R³⁷, R³⁹ and R⁴⁰ may combine to form a substituted or unsubstituted fused unsaturated moiety; and~~

~~---(g)--- mixtures thereof.~~

8. (Currently Amended) The bleaching composition according to Claim 7 wherein said organic catalyst compound is selected from the group consisting of:

(a) ~~aryliminium cations and aryliminium polyions having a net charge of from about +3 to about -3, as represented by the formula [XI], where R¹⁸ is H or methyl, and R²⁰ is H,~~

~~(b) aryliminium zwitterions having a net charge of from about +3 to about -3, as represented by the formula [XII], where R²⁵ is H or methyl, Z_p⁻ is -CO₂⁻, -SO₃⁻ or -OSO₃⁻, and p is 1 or 2;~~

~~(c) oxaziridinium cations and oxaziridinium polyions having a net charge of from about +3 to about -3, as represented by the formula [XIII], where R¹⁸ is H or methyl, and R²⁰ is H;~~

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~~(d) aryliminium zwitterions having a net charge of from about +3 to about -3, as represented by the formula [XIV], where R^{25} is H or methyl, Z_p^- is CO_2^- , SO_3^- or OSO_3^- , and p is 1 or 2;~~

~~(e) modified amines as represented by the formulas [XV] and [XVI] wherein the modified amines have a net charge of about +1 to about -1 and wherein R^{32} is H and/or Z_p^- is CO_2^- , SO_3^- or OSO_3^- ; and~~

~~(f) modified amine oxides as represented by the formulas [XVII] [XX] wherein the modified amine oxides have a net charge of about +1 to about -1 and wherein R^{32} is H and/or Z_p^- is CO_2^- , SO_3^- or OSO_3^- .~~

9. (Original) The bleaching composition according to Claim 1 wherein said organic catalyst compound comprises from about 0.0001% to about 10% by weight of said composition, and said peroxygen source, when present, comprises from about 0.01% to about 60% by weight of said composition.

10. (Original) The bleaching composition according to Claim 9 wherein said organic catalyst compound comprises from about 0.01% to about 0.5% by weight of said composition.

11. (Original) The bleaching composition according to Claim 1 wherein said peroxygen source, when present, is selected from the group consisting of:

(a) preformed peracid compounds selected from the group consisting of percarboxylic acids and salts, percarbonic acids and salts, perimidic acids and salts, peroxymonosulfuric acids and salts, and mixtures thereof; and

(b) hydrogen peroxide sources selected from the group consisting of perborate compounds, percarbonate compounds, perphosphate compounds and mixtures thereof; and a bleach activator.

12. (Original) The bleaching composition according to Claim 11 wherein said peroxygen source is a hydrogen peroxide sources selected from the group consisting of perborate compounds, percarbonate compounds, perphosphate compounds and mixtures thereof; and a bleach activator.

13. (Original) The bleaching composition according to Claim 11 wherein said bleach activator is selected from the group consisting of: tetraacetyl ethylene diamine (TAED); benzoylcaprolactam (BzCL); 4-nitrobenzoylcaprolactam; 3-chlorobenzoylcaprolactam; benzoyloxybenzenesulphonate (BOBS); nonanoyloxybenzenesulphonate (NOBS); phenyl

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benzoate (PhBz); decanoyloxybenzenesulphonate (C₁₀-OBS); benzoylvalerolactam (BZVL); octanoyloxybenzenesulphonate (C₈-OBS); perhydrolyzable esters; 4-[N-(nonanoyl) amino hexanoyloxy]-benzene sulfonate sodium salt (NACA-OBS); lauroyloxybenzenesulfonate (LOBS or C₁₂-OBS); 10-undecenoyloxy benzenesulfonate (UDOBS); decanoyloxybenzoic acid (DOBA) and mixtures thereof.

14. (Original) The bleaching composition according to Claim 1 wherein said bleaching compound further comprises one or more of the following detergent components selected from the group consisting of: surfactants, solvents, buffers, enzymes, soil release agents, clay soil removal agents, dispersing agents, brighteners, suds suppressors, fabric softeners, suds boosters, enzyme stabilizers, builders, chelants, other bleaching agents, dyes, dye transfer inhibiting agents, perfumes and mixtures thereof.

15. (Original) The bleaching composition according to Claim 1 wherein said bleaching composition is a laundry detergent.

16. (Original) The bleaching composition according to Claim 1 wherein said bleaching composition is a laundry additive.

17. (Original) The bleaching composition according to Claim 16 wherein said laundry additive further includes a suitable carrier.

18. (Withdrawn) A method for laundering a fabric in need of laundering, said method comprises contacting said fabric with a laundry solution containing a bleaching composition according to Claim 1.

19. (Withdrawn) A method according to Claim 18 wherein the in-use concentration for said organic catalyst compound is about 0.01 ppm to about 10 ppm.

20. (Withdrawn) A method according to Claim 19 wherein the in-use concentration for said organic catalyst compound is about 0.04 ppm to 2.5 ppm.

21. (Withdrawn) A method according to Claim 20 wherein the in-use concentration for said organic catalyst compound is about 0.1 ppm to 1 ppm.

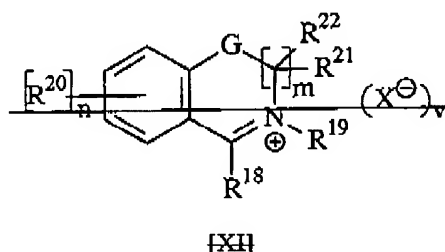
22. (Original) A product comprising a bleaching composition according to Claim 1, the product further including instructions for using said compound to launder a fabric in need of

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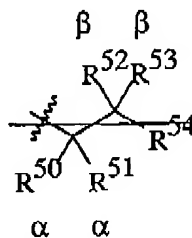
laundering, the instructions including the step of contacting said fabric with a laundry solution containing the product.

23. (Currently Amended) An organic catalyst compound wherein said organic catalyst compound is selected from the group consisting of organic catalyst compounds that exhibit an organic catalyst lifetime greater than or equal to 30 minutes, wherein said organic catalyst compound is selected from the group consisting of:

a) ~~aryliminium cations and aryliminium polyions, which have a net charge of from about +3 to about -3, that are represented by the formula [XII]:~~



where ~~m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each R²⁰ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal R²⁰ substituents may combine to form a fused aryl, fused carboxylic or fused heterocyclic ring, provided that when R¹⁹ is CH(CH₃)₂, R²⁰ is not COCH₃; R¹⁸ may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals; wherein R¹⁹ has the formula:~~

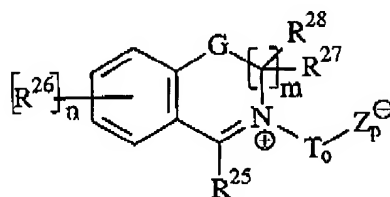


wherein ~~R⁵⁰, R⁵¹ are independently selected from the group consisting of H, alkyl and cycloalkyl radical provided at least one of R⁵⁰, R⁵¹ is not H; R⁵², R⁵⁴ may be independently selected from a substituted or unsubstituted radical selected from the group consisting of H, linear or branched,~~

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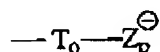
~~substituted or unsubstituted alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, alkoxy, keto and carboalkoxy radicals, provided that any of R⁵⁰, R⁵⁴ may be joined together with any other of R⁵⁰, R⁵⁴ to form part of a common ring; and when R⁵⁴ is H, R⁵⁰, R⁵¹ do not combine with any of R⁵², R⁵³ to form an aromatic moiety; G is selected from the group consisting of: (1) O; (2) N(R²³); and (3) N(R²³, R²⁴); R²¹, R²⁴ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, linear or branched C₁-C₁₂ alkyls, alkylene, alkoxys, aryls, alkaryls, aralkyls, cycloalkyls, and heterocyclic rings; provided that any of R¹⁸, R¹⁹, R²⁰, R²¹, R²⁴ may be joined together with any other of R¹⁸, R¹⁹, R²⁰, R²¹, R²⁴ to form part of a common ring; any geminal R²¹, R²² may combine to form a carbonyl; any vicinal R²¹, R²⁴ may join to form unsaturation; and wherein any one group of substituents R²¹, R²⁴ may combine to form a substituted or unsubstituted fused unsaturated moiety; X⁻ is a suitable charge balancing counterion; and v is an integer from 1 to 3;~~

b) —aryliminium zwitterions, which have a net charge of from about +3 to about -3, that are represented by the formula [XII]:



[XII]

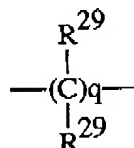
where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each R²⁶ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal R²⁶ substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring; R²⁵ may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; also present in this formula is the radical represented by the formula:



where Z_p⁻ is covalently bonded to T₀, and Z_p⁻ is selected from the group consisting of

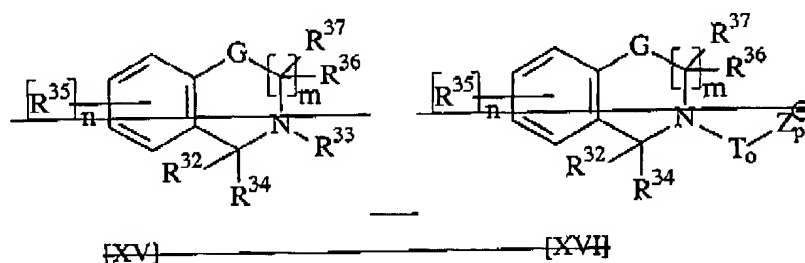
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$-\text{CO}_2^-$, $-\text{SO}_3^-$, $-\text{OSO}_3^-$, $-\text{SO}_2^-$ and $-\text{OSO}_2^-$ and p is either 1, 2 or 3; T_0 is selected from the group consisting of:



wherein q is an integer from 2 to 8; R^{29} is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all R^{29} groups are not independently selected to be H, provided T_0 is not methylene or a moiety that is covalently bonded to the nitrogen of formula XII via unsubstituted methylene; G is selected from the group consisting of: (1) $-\text{O}-$; (2) $-\text{N}(\text{R}^{30})-$; and (3) $-\text{N}(\text{R}^{30}\text{R}^{31})-$; R^{27} , R^{28} , R^{30} and R^{31} are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylenes, heterocyclic ring, alkoxys, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of R^{25} , R^{26} , R^{27} , R^{28} , R^{30} and R^{31} may be joined together with any other of R^{25} , R^{26} , R^{27} , R^{28} , R^{30} and R^{31} to form part of a common ring; any geminal $\text{R}^{27} - \text{R}^{28}$ may combine to form a carbonyl; any vicinal $\text{R}^{27} - \text{R}^{31}$ may join to form unsaturation; and wherein any one group of substituents $\text{R}^{27} - \text{R}^{31}$ may combine to form a substituted or unsubstituted fused unsaturated moiety;

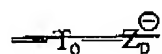
~~— c) — modified amines that are represented by the formulas [XV] and [XVI]:~~



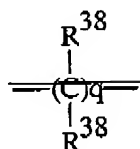
~~where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; R^{34} is a radical selected from the group consisting of substituted or unsubstituted, saturated or unsaturated hydroxy, perhydroxy, alkoxy, peralkoxy, carboxylic, percarboxylic, sulfonate and persulfonate radicals, each R^{35} is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal R^{35} substituents may combine to form a fused aryl,~~

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~~fused carbocyclic or fused heterocyclic ring; R³² may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; R³³ may be a substituted or unsubstituted, saturated or unsaturated, radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, and also present in this formula is the radical represented by the formula:~~



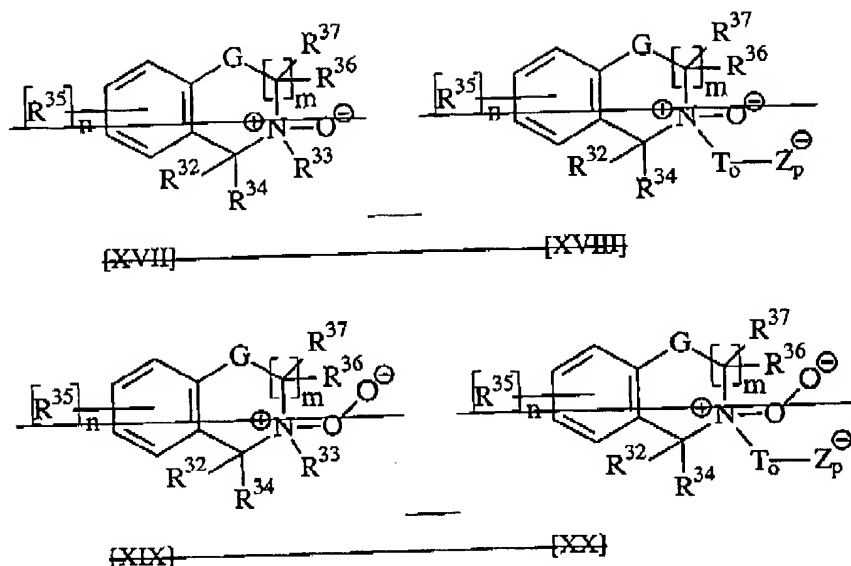
~~where Z_p⁻ is covalently bonded to T₀, and Z_p⁻ is selected from the group consisting of CO₂⁻, SO₃⁻, OSO₃⁻, SO₂⁻ and OSO₂⁻, and p is either 1, 2 or 3; T₀ is selected from the group consisting of:~~



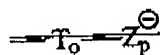
~~wherein q is an integer from 1 to 8; R³⁸ is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all R³⁸ groups are not independently selected to be H; G is selected from the group consisting of: (1) O; (2) N(R³⁹); and (3) N(R³⁹R⁴⁰); R³⁶, R³⁷, R³⁹ and R⁴⁰ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxys, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁹ and R⁴⁰ may be joined together with any other of R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁹ and R⁴⁰ to form part of a common ring; any geminal R³⁶-R³⁷ may combine to form a carbonyl; any vicinal R³⁶, R³⁷, R³⁹ and R⁴⁰ may join to form unsaturation; and wherein any one group of substituents R³⁶, R³⁷, R³⁹ and R⁴⁰ may combine to form a substituted or unsubstituted fused unsaturated moiety;~~

d) ~~modified amine oxides that are represented by formulas [XVII] [XX];~~

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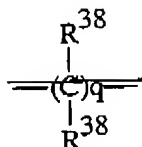


where m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; R³⁴ is a radical selected from the group consisting of substituted or unsubstituted, saturated or unsaturated hydroxy, perhydroxy, alkoxy, peralkoxy, carboxylic, percarboxylic, sulfonate and persulfonate radicals; each R³⁵ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal R³⁵ substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring; R³² may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonate, alkoxy, keto, carboxylic, and carboalkoxy radicals; R³³ may be a substituted or unsubstituted, saturated or unsaturated, radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, and also present in this formula is the radical represented by the formula:



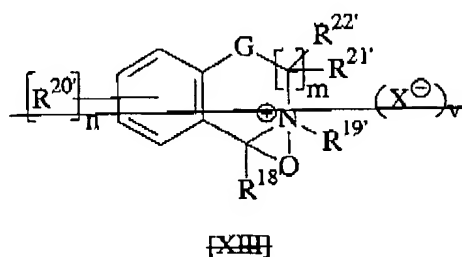
where Z_p^- is covalently bonded to T_0 , and Z_p^- is selected from the group consisting of $-CO_2^-$, $-SO_3^-$, $-OSO_3^-$, $-SO_2^-$ and $-OSO_2^-$, and p is either 1, 2 or 3; T_0 is selected from the group consisting of:-

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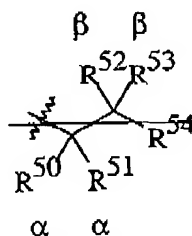


wherein q is an integer from 1 to 8; R^{38} is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all R^{38} groups are not independently selected to be H; G is selected from the group consisting of: (1) O; (2) $N(R^{39})$; and (3) $N(R^{39}R^{40})$; R^{36} , R^{37} , R^{39} and R^{40} are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxys, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of R^{32} , R^{33} , R^{34} , R^{35} , R^{36} , R^{37} , R^{39} and R^{40} may be joined together with any other of R^{32} , R^{33} , R^{34} , R^{35} , R^{36} , R^{37} , R^{39} and R^{40} to form part of a common ring; any geminal R^{36} R^{37} may combine to form a carbonyl; any vicinal R^{36} , R^{37} , R^{39} and R^{40} may join to form unsaturation; and wherein any one group of substituents R^{36} , R^{37} , R^{39} and R^{40} may combine to form a substituted or unsubstituted fused unsaturated moiety;

f) oxaziridinium cations and polyions, which have a net charge of from about +3 to about -3, that are represented by formula (XIII):



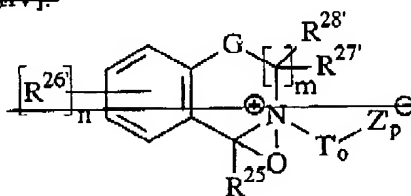
wherein $R^{19'}$ has the formula:



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wherein R^{50} , R^{51} are independently selected from the group consisting of H, alkyl and cycloalkyl radical provided at least one of R^{50} , R^{51} is not H; R^{52} , R^{54} may be independently selected from a substituted or unsubstituted radical selected from the group consisting of H, linear or branched, substituted or unsubstituted alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, alkoxy, keto and carboalkoxy radicals, provided that any of R^{50} , R^{54} may be joined together with any other of R^{50} , R^{54} to form part of a common ring; and when R^{54} is H, R^{50} , R^{51} do not combine with any of R^{52} , R^{53} to form an aromatic moiety; and wherein m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each $R^{20'}$ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals, and any two vicinal $R^{20'}$ substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring, provided that when $R^{19'}$ is isopropyl, $R^{20'}$ is not COCH_3 ; $R^{18'}$ may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; G is selected from the group consisting of: (1) O; (2) $\text{N}(R^{23'})$; and (3) $\text{N}(R^{23'}R^{24'})$; $R^{21'}$, $R^{24'}$ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, linear or branched C_1 - C_{12} alkyls, alkylenes, alkoxy, aryls, alkaryls, aralkyls, cycloalkyls, and heterocyclic rings, provided that any of $R^{18'}$, $R^{19'}$, $R^{21'}$, $R^{24'}$ may be joined together with any other of $R^{18'}$, $R^{19'}$, $R^{21'}$, $R^{24'}$ to form part of a common ring; any geminal $R^{21'}$, $R^{22'}$ may combine to form a carbonyl; any vicinal $R^{21'}$, $R^{24'}$ may join to form unsaturation; and wherein any one group of substituents $R^{21'}$, $R^{24'}$ may combine to form a substituted or unsubstituted fused unsaturated moiety; and wherein any one group of substituents $R^{21'}$, $R^{24'}$ may combine to form a substituted or unsubstituted fused unsaturated moiety; X^- is a suitable charge balancing counterion; and v is an integer from 1 to 3;

g) oxaziridinium zwitterions, which have a net charge of from about +3 to about -3, that are represented by formula [XIV]:

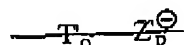


[XIV]

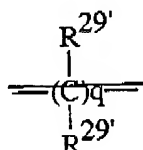
wherein m is 1 to 3 when G is present and m is 1 to 4 when G is not present; and n is an integer from 0 to 4; each $R^{26'}$ is independently selected from a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, aryl, fused aryl, heterocyclic ring, fused heterocyclic ring, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy

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radicals, and any two vicinal $R^{26'}$ substituents may combine to form a fused aryl, fused carbocyclic or fused heterocyclic ring; $R^{25'}$ may be a substituted or unsubstituted radical selected from the group consisting of H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, heterocyclic ring, silyl, nitro, halo, cyano, sulfonato, alkoxy, keto, carboxylic, and carboalkoxy radicals; the radical represented by the formula:



where Z_p^{\ominus} is covalently bonded to T_o , and Z_p^{\ominus} is selected from the group consisting of CO_2^- , SO_3^- , OSO_3^- , SO_2^- and OSO_2^- , and p is either 1 or 2; T_o is selected from the group consisting of:



wherein q is an integer from 1 to 8; $R^{29'}$ is independently selected from substituted or unsubstituted radicals selected from the group consisting of linear or branched H, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkylene, heterocyclic ring, alkoxy, arylcarbonyl, carboxyalkyl and amide groups, provided that all $R^{29'}$ groups are not independently selected to be H, provided T_o is not methylene or a moiety that is covalently bonded to the nitrogen of formula XIV via methylene; G is selected from the group consisting of: (1) O; (2) $N(R^{30'})$; and (3) $N(R^{30'}R^{31'})$; $R^{27'}$, $R^{28'}$, $R^{30'}$ and $R^{31'}$ are substituted or unsubstituted radicals independently selected from the group consisting of H, oxygen, alkyl, cycloalkyl, alkaryl, aryl, aralkyl, alkenes, heterocyclic ring, alkoxy, arylcarbonyl groups, carboxyalkyl groups and amide groups; any of $R^{25'}$, $R^{26'}$, $R^{27'}$, $R^{28'}$, $R^{30'}$ and $R^{31'}$ may be joined together with any other of $R^{25'}$, $R^{26'}$, $R^{27'}$, $R^{28'}$, $R^{30'}$ and $R^{31'}$ to form part of a common ring; any geminal $R^{27'}$ $R^{28'}$ may combine to form a carbonyl; any vicinal $R^{27'}$ $R^{31'}$ may join to form unsaturation; and wherein any one group of substituents $R^{27'}$ $R^{31'}$ may combine to form a substituted or unsubstituted fused unsaturated moiety; and
 i) mixtures thereof.

24. (Original) The organic catalyst compound according to Claim 23 wherein said organic catalyst exhibits an organic catalyst lifetime greater than 30 minutes.

25. (Original) The organic catalyst compound according to Claim 23 wherein said organic catalyst exhibits an organic catalyst lifetime greater than 1 hours.

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26 (Original) The organic catalyst compound according to Claim 23 wherein said organic catalyst exhibits an organic catalyst lifetime greater than 2 hours.